Dell Networking W-AP103H hospitality access point

Cost-effective, dual-band coverage in low-density hospitality WiFi environments

The multifunctional and affordable Dell Networking W-AP103H hospitality wireless access point (AP) maximizes mobile device performance in low-density WiFi environments while minimizing interference from cellular networks.

The W-AP103H installs in minutes and easily mounts to an existing electrical or data wall box, using the existing structured cabling system to provide secure wired and WiFi network access in dormitories, classrooms, hotels, medical clinics and multitenant environments.

The compact and cost-effective W-AP103H delivers wireless data rates up to 300Mbps per radio employing 802.11n technology with two spatial MIMO streams (2x2:2). This dual-radio AP features dedicated 2.4GHz and 5GHz radios and integrated omni-directional antennas.

For wired connectivity, the W-AP103H provides two secure downlink switch ports, a passive pass-through RJ-45 port and a gigabit uplink port.

The device can be powered using either Power-over-Ethernet (PoE) over the uplink network port, or a 12V DC power supply.

Unique Benefits

Advanced Cellular Coexistence (ACC)
ACC enables WLANs to perform at peak efficiency by minimizing interference from 3G/4G LTE networks, distributed antenna systems and commercial small cell/femtocell equipment.

WiFi client optimization
To eliminate sticky client behavior while users roam, the W-AP103H access point features patented ClientMatch™ technology, which continuously gathers session performance metrics from mobile devices. If a mobile device moves away from an AP or if RF interference impedes performance, ClientMatch automatically steers the device to a better AP.

Quality of service for Lync
The W-AP103H access point supports priority handling and policy enforcement for individual Microsoft Lync media on the same device, including encrypted videoconferencing, voice, chat and desktop sharing.

The W-AP103H access point can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.

Advanced capabilities

Best-in-class RF management
All Dell Networking APs include Adaptive Radio Management™ (ARM) technology, which is essential to creating the most reliable, high-performance WLANs. ARM manages the 2.4GHz and 5GHz radio bands to optimize WiFi client performance and ensures that APs stay clear of RF interference.

Spectrum analysis
Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4GHz and 5GHz radio bands to identify sources of RF interference.

Security
SecureJack-capable for secure tunneling of wired Ethernet traffic.

Operating modes

- Mobility Controller-managed AP
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Remote AP (RAP) for branch environments
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

Wireless radio specifications

- AP type: Indoor, dual radio, 5GHz and 2.4GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5GHz (Radio 0) and 2.4GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 300Mbps wireless data rate
- Support for up to 32 associated client devices, and up to 8 BSSIDs per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 to 2.4835GHz
  - 5.150 to 5.250GHz
  - 5.250 to 5.350GHz
  - 5.470 to 5.725GHz
  - 5.725 to 5.850GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4GHz band: +21 dBm (18 dBm per chain)
  - 5GHz band: +21 dBm (18 dBm per chain)
- ACC minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20MHz and 40MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

Power

- Maximum (worst-case) power consumption: 9.4W (POE) or 8.3W (DC)
- Maximum (worst-case) power consumption in idle mode: 3.5W (POE) or 2.9W (DC)
- Direct DC source: 12V DC nominal, +/- 5%
- PoE: 48V DC (nominal) 802.3af compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

Antennas

- Two integrated dual-band omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.6dBi in 2.4GHz and 3.3dBi in 5GHz. Antennas are optimized for vertical wall mounted orientation of the AP.

Other interfaces

- 10/100/1000BASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48V DC (nominal) 802.3af PoE or 802.3at PoE+
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Serial console interface (proprietary; optional adapter cable available)
- Visual indicator (single tri-color LED): power/system status
- Dual-function push-button: factory reset (during device power up) and LED on/off control (during normal operation)
- Kensington security slot

Mounting

- Included with AP:
  - Mounting plate for single-gang electrical/data wall-box (various worldwide standards)
- Spare:
  - AP-103H-MNT1: Mounting plate for single-gang electrical/data wall-box (various worldwide standards)
- Accessory:
  - AP-103H-MNT2: Mounting plate for dual-gang electrical/data wall-box (various worldwide standards)

Mechanical

- Dimensions/weight (unit, excluding mounting accessories):
  - 140mm x 86mm x 30mm (H x W x D)
  - 260g
- Dimensions/weight (unit, as mounted):
  - 140mm x 86mm x 31mm (H x W x D)
  - 305g
- Dimensions/weight (shipping):
  - 168mm x 143mm x 49mm (H x W x D)
  - 420g
- Access point attaches securely to mounting bracket using built-in security features. Removing the unit from the bracket requires a custom tool that ships with the product.

Environmental

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

Regulatory
- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please contact your Dell representative.

Reliability
- MTBF: 500,858hrs (57.2yrs) at +25C operating temperature

Regulatory model number
- W-AP103H: APINH103

Certifications
- CB Scheme Safety, cTUVus
- WiFi Alliance (WFA) certified 802.11a/b/g/n

Warranty
- Extended lifetime warranty

Minimum operating system software version
- AOS 6.4.1.0

Packaging list
- W-AP103H hospitality access point
- Single-gang universal mounting plate
- Two mounting screws (#6-32 x 1" machine screw)
- Tool for secure mounting mechanism
- Installation guide

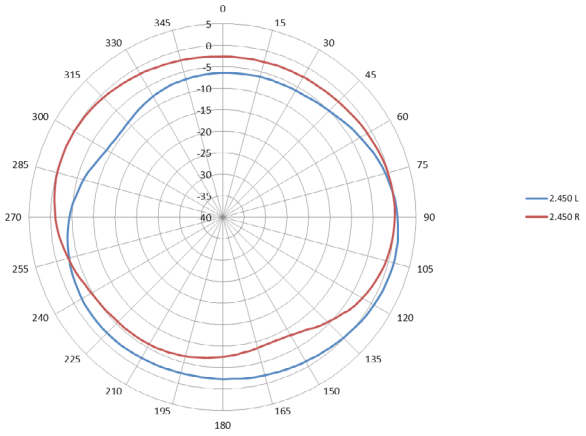
RF performance table

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4GHz		
1Mbps	18	-92
11Mbps	18	-89
802.11g 2.4GHz		
6Mbps	18	-88
54Mbps	16	-75
802.11n HT20 2.4GHz		
MCS0/8/16	18	-88
MCS7/15/23	14	-71
802.11n HT40 2.4GHz		
MCS0/8/16	18	-85
MCS7/15/23	14	-68
802.11a 5GHz		
6Mbps	18	-93
54Mbps	16	-76
802.11n HT20 5GHz		
MCS0/8	18	-94
MCS7/15	14	-73
802.11n HT40 5GHz		
MCS0/8	18	-91
MCS7/15	14	-70

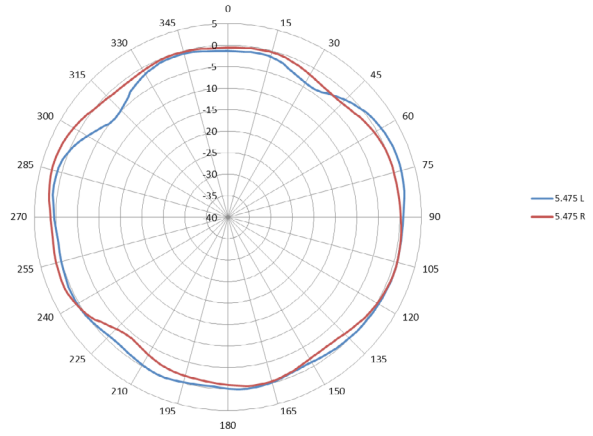
Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.

W-AP103H antenna pattern plots

Horizontal or Azimuth plane (top view)

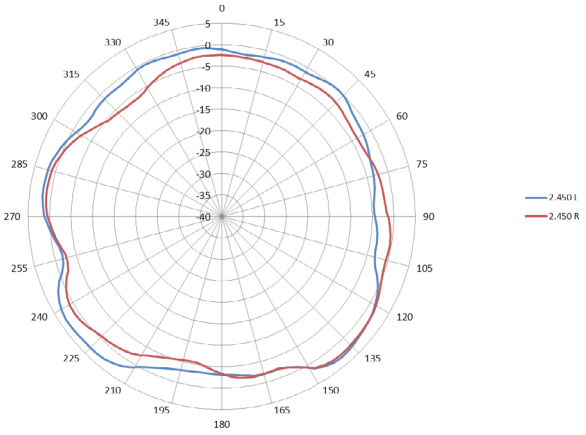


2.450GHz

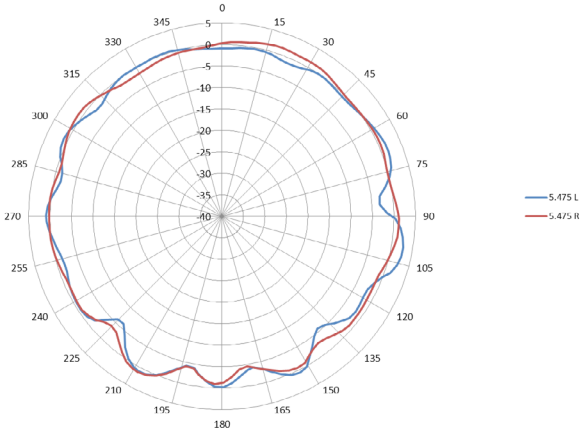


5.550GHz

Elevation plane (side view)

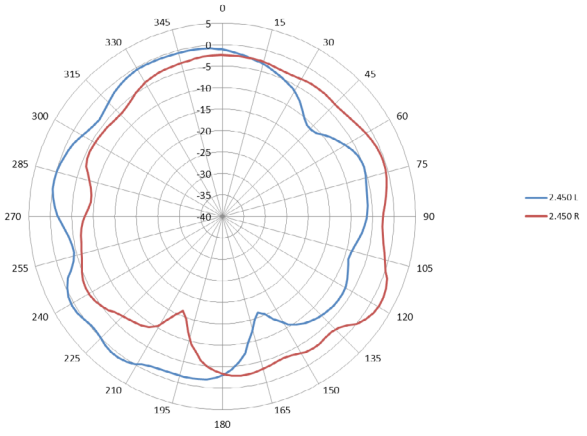


2.450GHz

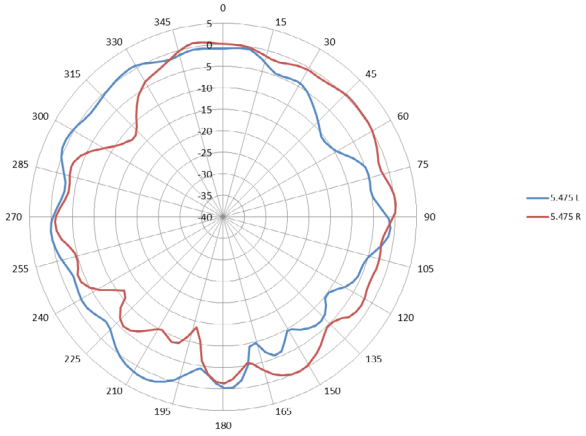


5.550GHz

Elevation plane (front view)



2.450GHz



5.550GHz

Ordering information

Part number	Description
Access point	
W-AP103H	Dell Networking W-AP103H Wireless Access Point, 802.11n, 2x2:2, dual radio, integrated antennas
Mounting spares	
AP-103H-MNT1	Dell W-AP103H Access Point Mounting Kit (single) – Kit with spare for single-gang wall-box mounting adapter shipping with W-AP103H
Mounting accessories	
AP-103H-MNT2	Dell W-AP103H Access Point Mounting Kit (dual) – Kit with optional dual-gang wall-box mounting adapter for W-AP103H
Generic indoor AP accessories	
AP-AC-UN	12V/18W Indoor Access Point AC power adapter. Universal, ships with eight country-specific plug inserts (US, EU, UK, Australia, China, Korea, Argentina, Brazil), covering all Dell core countries
AP-AC-12V18	12V/18W Indoor Access Point AC power adapter does not include country-specific power cord (order separately)
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000BASE-T Ethernet
AP-CBL-SER	AP console port adapter cable (proprietary to DB9 female RS232)

*Select Dell Networking products carry an Extended Life Warranty with Basic Hardware Service. Warranty covers repair or replacement of the product for as long as it remains in use by the customer. In the event of discontinuance of product manufacture, Dell Extended Life Warranty extends until five (5) years after end of product model sales. Warranty limits any power supply, antennae or accessories to one (1) year from date of purchase. Warranty does not include troubleshooting, configuration, or other advanced service provided by Dell ProSupport. The Extended Life Limited Hardware Warranty is not transferrable. For more information see dell.com/warranty.

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